

METHOD FOR SELECTIVE ELECTROPLATING OF SEMICONDUCTOR DEVICE I/O PADS USING A TITANIUM-TUNGSTEN SEED LAYER

Abstract

A method for selective electroplating of a semiconductor input/output (I/O) pad includes forming a titanium-tungsten (TiW) layer over a passivation layer on a semiconductor substrate, the TiW layer further extending into an opening formed in the passivation layer for exposing the I/O pad, such that the TiW layer covers sidewalls of the opening and a top surface of the I/O pad. A seed layer is formed over the TiW layer, and portions of the seed layer are selectively removed such that remaining seed layer material corresponds to a desired location of interconnect metallurgy for the I/O pad. At least one metal layer is electroplated over the remaining seed layer material, using the TiW layer as a conductive electroplating medium.